

Proposed West Coast LNG Projects First Come, First to Serve?

*Presented to the
California Association of Environmental
Professionals
AEP 2007 Conference*

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Shell Beach, California

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Why the Need for LNG?

- CA imports 87% of its natural gas supply
- CA is located at the end of the interstate pipelines
- U.S. natural gas supplies not keeping up with demand
- LNG would diversify CA's supply sources and could hedge against supply and price problems in the rest of the country
- The State's Energy Action Plan, adopted by the CEC and CPUC, recognizes the need for additional natural gas supplies from LNG terminals on the West Coast



LNG Vessel
Photo courtesy of CH-IV International, <http://ch-iv.com>

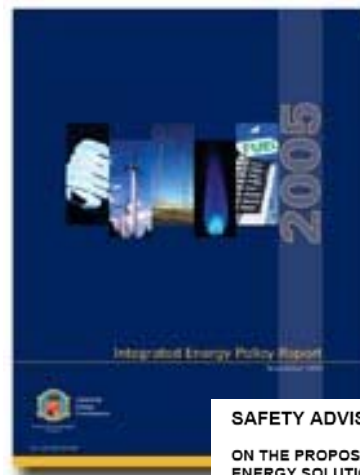


Cove Point Import Terminal, Maryland
Photo courtesy of Dominion © 2003, <http://www.dom.com>



Energy Commission's Role

- State's primary energy planning agency (Integrated Energy Policy Report)
- No legal permitting authority over LNG facilities
- Organize and facilitate LNG Interagency Working Group
- Governor-designated state agency for consulting with FERC and preparing Safety Advisory Report for proposed Port of Long Beach LNG Import Project
- Prepare comments on NEPA/CEQA documents for LNG projects



SAFETY ADVISORY REPORT ON THE PROPOSED SOUND ENERGY SOLUTIONS LIQUEFIED NATURAL GAS TERMINAL AT THE PORT OF LONG BEACH, CALIFORNIA

*Prepared by the Staff of the
California Energy Commission
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STAFF PAPER

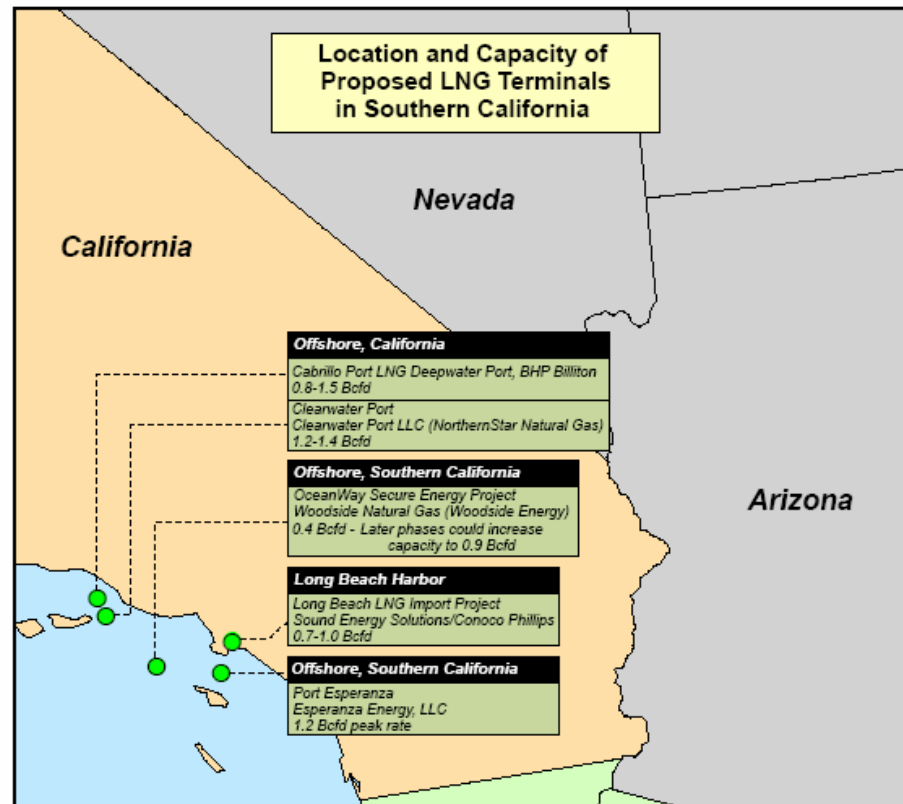


Arnold Schwarzenegger,
Governor
September 7, 2005
PUBLICATION #
CEC-900-2005-033



California LNG Proposals

- Clearwater Port (offshore)
- Cabrillo Port LNG Deepwater Port (offshore)
- OceanWay Secure Energy Project (offshore)
- Long Beach LNG Import Project (onshore)
- Port Esperanza (offshore)



Long Beach LNG Import Project

- Proposed by Sound Energy Solutions (a wholly owned subsidiary of Mitsubishi Corporation) – 50/50 partnership with ConocoPhillips
- Located in Port of Long Beach, PierT; 25-acre site
- 700 million cubic feet per day (MMcfd) average
- Two, 160,000-cubic meter, full-containment storage tanks
- Four shell and tube heat vaporizers (closed-loop, freshwater system)
- Natural Gas Liquids (ethane) Recovery System
- 150,000 gallons per day of LNG vehicle fuel



Computer simulation of Long Beach LNG Import Project (October 2005
Draft EIS/EIR



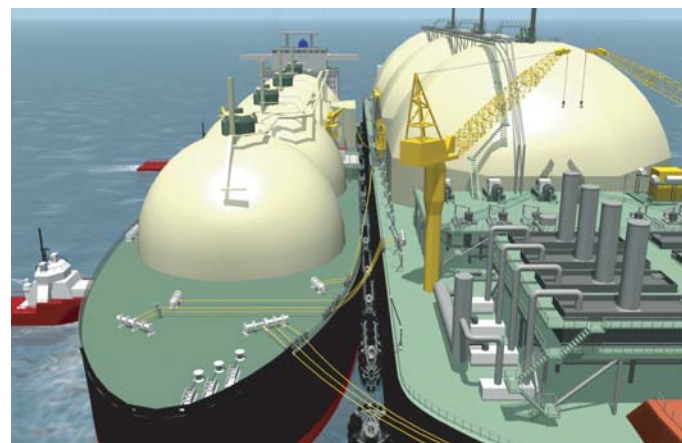
Long Beach LNG Import Project (cont.)

- Key Issues:
 - Public Safety (accidental or terrorist-induced LNG releases)
 - Air Quality
- Licensing timetable:
 - Publication of Final EIS/EIR is uncertain.
 - The Board of Harbor Commissioners said “further substantial time and resources will be required in order to finalize an appropriate and legally defensible EIS/EIR” and they “will not divert additional staff resources to the LNG project without a clear understanding that the City is prepared to support” the project. [Source: December 4, 2006, letter to City of Long Beach Mayor and Council]
 - Long Beach Mayor Bob Foster opposes project. [December 7, 2006, letter to SES]
 - Long Beach Oil & Gas Department says the value of SES’s financial offer to City “is not nearly sufficient to recommend to the City Council that negotiations continue forward.” [December 12, 2006, letter from Director Garner to City Manager Miller]
 - On February 8, 2007, Sound Energy Solutions filed a Writ of Mandate requesting a state judge to have the Port of Long Beach complete its environmental review.
 - Draft EIS/EIR published October 2005 by FERC and Port of Long Beach. Thousands of comments received.



Cabrillo Port LNG Deepwater Port

- Proposed by BHP Billiton LNG International Inc.
- Floating Storage and Regasification Unit (FSRU)
- Located approx. 14 miles off the coast of Ventura & Los Angeles Counties. Interconnect with SoCalGas system at Ormond Beach Generating Station via two undersea pipelines.
- 800 MMcfd average
- Three, 90,800 cubic meter storage tanks
- Eight submerged combustion vaporizers (SCV) (closed-loop, freshwater system)
- Closed-loop equipment cooling system (no seawater use under normal operations)



Images from March 2006 Revised DEIR



Cabrillo Port LNG Deepwater Port (cont.)

- **Key Issues:**

- ☐ Air Quality - Ventura County Air District opposes U.S. EPA draft air permit – onshore New Source Review Rules apply (best available control technology and emissions offsets required)
- ☐ Marine Resources - seawater discharge temperature and impingement and entrainment of marine organisms

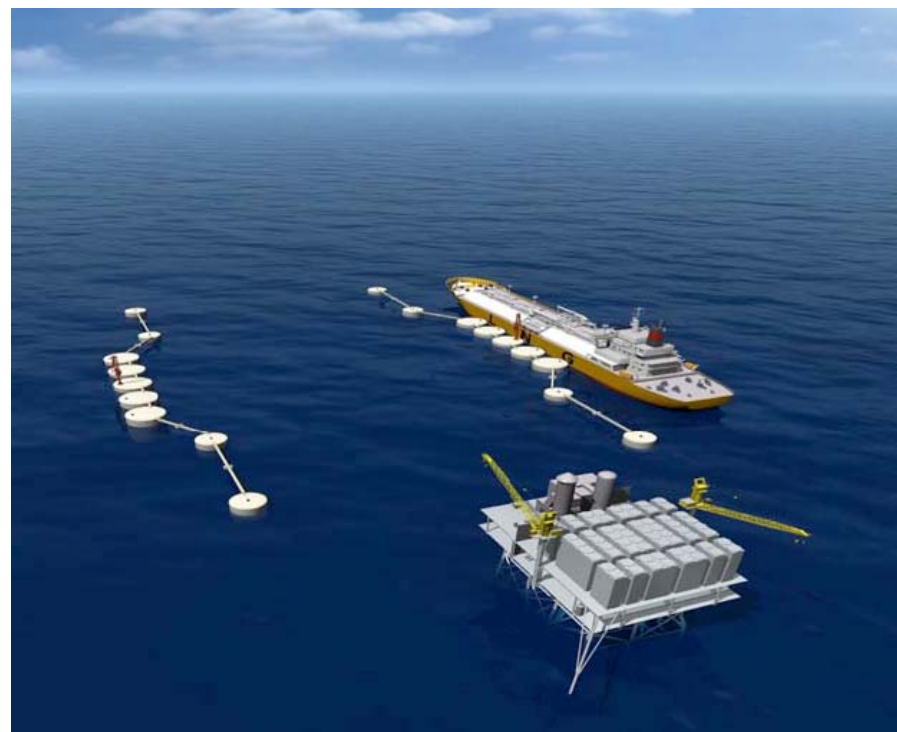
- **Licensing timetable:**

- ☐ DEIS/EIR published by U.S. Coast Guard and State Lands Commission in October 2004. 2800 comments filed.
- ☐ Revised DEIR published by State Lands Commission March 2006; 1400 comments filed.
- ☐ Final EIS/EIR was issued on March 9, 2007.
- ☐ U.S. Maritime Administration and Coast Guard held a hearing on April 4, 2007. Following the hearing the Governor has 45 days (or until May 21, 2007) to approve, approve with conditions, or veto the project, or take no action (approve by default).
- ☐ On April 9, 2007, the State Lands Commission voted against a 30 year lease for the project and would not certify that the project's environmental impact report met CEQA requirements. In addition to this, on April 12, 2007, the California Coastal Commission found the project inconsistent with California's Coastal Zone Management Plan.



Clearwater Port

- Clearwater Port LLC (subsidiary of NorthernStar Natural Gas)
- Convert existing oil drilling platform (Platform Grace) to an LNG receiving and regasification terminal
- Located 12.6 miles offshore of Oxnard. Interconnect with SoCalGas system at Mandalay Power Station via an undersea pipeline.
- 1.2 billion cubic feet per day (Bcfd) average
- No onsite storage
- Ambient air vaporizers (heat exchangers) – less fuel use and lower air emissions than SCV technology



Source: PowerPoint Presentation by NorthernStar to LNG Interagency Working Group (August 31, 2006)



Clearwater Port (cont.)

- Key Issues: Unknown at this time. Draft EIS/EIR possibly published late Summer 2007
- Licensing timeframe: Unknown
 - Updated Deepwater Port (DWP) Application filed with U.S. Coast Guard and State Lands Commission on June 30, 2006. Application has not been certified as complete.
 - Once application deemed complete, the license review process, including a decision, must be completed within 356 days. Although, the “clock” may be suspended due to outstanding information needs or at the request of the applicant.
 - Governor will have 45 days from the final federal hearing to approve, approve with conditions, or veto the project, or take no action (approved by default).
 - The final structural report is expected to be released in early May 2007.



OceanWay Secure Energy Project

- Woodside Natural Gas (subsidiary of Woodside Energy)
- Underwater buoy system located 22 miles off coast at Los Angeles
- 400 MMcfd average (later phases could increase capacity to 800 MMcfd and 1.2 Bcfd)
- LNG regasified onboard specially-designed tankers
- Ambient air used to regasify LNG (no seawater used for regasification)
- No gas storage
- Gas delivered to undersea pipeline that would interconnect with SoCalGas infrastructure near Los Angeles International Airport



OceanWay Secure Energy Project (cont.)

- Key Issues: Unknown at this time. No environmental documents available.
- Licensing timeframe: Unknown.
 - Applications for Deepwater Port Permit and pipeline franchise filed with U.S. Coast Guard and City of Los Angeles on August 18, 2006. The DWP Application has not been certified as complete.
 - Once application is deemed complete, the license review process, including a decision, must be completed within 356 days. Although, the “clock” may be suspended due to outstanding information needs or at the request of the applicant.
 - Governor will have 45 days from the final federal hearing to approve, approve with conditions, or veto the project, or take no action (approved by default).



Esperanza Energy, Port Esperanza

- Esperanza Energy, LLC (a subsidiary of Tideland Oil & Gas Corporation)
- Floating LNG facility located approximately 15 miles seaward of Long Beach, approximately 10 miles offshore from the closest point of land in California
- 1.2 bcf/day peak
- LNG regasified onboard specially-designed tankers
- Facility includes two unmoored, self-propelled HiLoad regasification units
- No gas storage



Esperanza Energy, Port Esperanza (cont.)

- Key Issues: Unknown at this time. No environmental documents available.
- Licensing timeframe: Unknown.
 - Applications for Deepwater Port Permit filed with U.S. Coast Guard and State Lands Commission will be filed in late 2007.
 - Once application is deemed complete, the license review process, including a decision, must be completed within 356 days. Although, the “clock” may be suspended due to outstanding information needs or at the request of the applicant.
 - Governor will have 45 days from the final federal hearing to approve, approve with conditions, or veto the project, or take no action (approved by default).



Non-California LNG Projects Under Consideration/Construction

- Canada (West Coast)
 - WestPac LNG, WestPac Terminals, Inc./Ridley LNG
 - Kitimat LNG/Galveston LNG
 - Mount Hayes, Terasen Gas, Vancouver Island
- Oregon
 - Jordan Cove Energy Project, Coos Bay



Non-California LNG Projects Under Consideration/Construction (cont.)

- Mexico (Northwest)
 - Terminal GNL de Sonora/ Sonora Pacific LNG
 - Energía Costa Azul



Source: <http://www.energiacostaazul.com.mx/English/constructionupdate.html>, 3/2007

2007 Natural Gas Assessment Report & Policy Analysis of Alternative Electricity and Natural Gas Scenarios

- South Coast Air Quality Management District's challenge to the California Public Utilities Commission natural gas quality rules
- LNG project updates
- The impacts of reducing greenhouse gas emissions
- Other alternative domestic supply scenarios
- Scenario on carbon tax/cap and trade
- The impacts of a range of renewables and energy efficiency scenarios on natural gas use in California and the West



2007 Natural Gas Assessment Report Timeline

- Staff draft report expected by late May 2007
- Preliminary results will be presented at a Energy Commission Hearing on June 7, 2007
- Draft IEPR will be issued in September 2007, followed by additional public hearings
- Proposed, new natural gas assessment to be completed and adopted by Commission in November 2007, as required by SB 1389, Statutes of 2002



Concluding Remarks

- Key decisions on the proposed offshore Cabrillo Port LNG Deepwater Port and proposed onshore Long Beach LNG Import Project will likely occur by summer 2007.
- The market and regulatory decisions will ultimately determine how many LNG import terminals will be built along CA's coast.
- The CEC will continue to study the need for natural gas supplies and LNG terminals as part of our work on the *2007 Integrated Energy Policy Report*.
- The CEC will continue to work cooperatively with the California Coastal Commission, California Public Utilities Commission, State Lands Commission, local government and LNG Interagency Working Group on LNG issues.



For More Information on LNG

Visit the Energy Commission's website at:

<http://www.energy.ca.gov/lng/index.html>

